

Genetic architecture of memory and executive functioning in Alzheimers disease

<https://www.neurodegenerationresearch.eu/survey/genetic-architecture-of-memory-and-executive-functioning-in-alzheimers-disease/>

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Country

USA

Title of project or programme

Genetic architecture of memory and executive functioning in Alzheimers disease

Source of funding information

NIH (NIA)

Total sum awarded (Euro)

€ 2,467,341.28

Start date of award

01/09/2014

Total duration of award in years

3

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords

Acquired Cognitive Impairment... Aging... Alzheimer's Disease... Alzheimer's Disease including Alzheimer's Disease Related Dementias (AD/ADRD)... Basic Behavioral and Social Science... Behavioral and Social Science... Brain Disorders... Clinical Research... Clinical Research - Extramural... Dementia... Epidemiology And Longitudinal Studies... Genetics... Human Genome... Neurodegenerative... Neurosciences

Research Abstract

DESCRIPTION (provided by applicant): Ten to 25% of people with late-onset Alzheimer's disease (AD) present with prominent executive deficits. Names such as frontal variant AD, executive prominent AD, and dysexecutive AD have been applied to this phenomenon. Little is known about traditional or genetic risk factors for dysexecutive AD. The overarching goal of this project is to further our understanding of the genetic architecture and clinical epidemiology of dysexecutive AD in the hopes of ultimately developing disease-modifying treatments. This project will leverage large-scale genome-wide genotype and sequence data and cognitive data collected on >17,000 participants across 19 collaborating studies. The investigators will use modern psychometric methods to co-calibrate cognitive data to develop scores on the same metric for memory and executive functioning. The investigators will use these scores to determine a continuous dysexecutive spectrum phenotype they have found to be highly heritable, with a pattern of heritability entirely distinct from that of AD. The investigators will leverage genome-wide genotype data for Aim 1. Five of the collaborating studies are prospective cohort studies with extensive cognitive and clinical data from >10,000 participants. The investigators will leverage these data for Aim 2. Several funding mechanisms are producing whole genome and whole exome sequencing data for people with AD. The investigators will leverage these data for Aim 3. Taken together, these investigations promise to improve what is known about dysexecutive AD, a highly heritable and devastating AD subtype. This work may identify genetic loci associated with risk for dysexecutive AD, which in turn may lead to development of drugs that could dramatically improve the lives of people with this condition.

Lay Summary

PUBLIC HEALTH RELEVANCE: The investigators propose to leverage extensive genetic, clinical, and cognitive data from 19 collaborating studies with >17,000 participants with Alzheimer's disease (AD) to further the understanding of dysexecutive AD, a devastating AD subtype. A series of genetic and epidemiological investigations are proposed. These investigations would dramatically increase the state of knowledge of this AD subtype, and may hasten the development of disease-modifying drugs.

Further information available at:

Types:

Investments > €500k

Member States:

United States of America

Diseases:

Alzheimer's disease & other dementias

Years:

2016

Database Categories:

N/A

Database Tags:

N/A